REMARKS

Applicant is in receipt of the Office Action mailed June 17, 2008. Claims 1-42 are currently pending in the application. Reconsideration of the present case is earnestly requested in light of the following remarks.

35 U.S.C. § 103 Rejection:

Claims 1-42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chapuis et al. (U.S. Patent No. 7,049,798 B2, herein referred to as "Chapuis1") in view of Chapuis et al. (U.S. Patent No. 7,000,125 B2, herein referred to as "Chapuis2").

Applicant respectfully submits that the he cited references taken together or separately do not teach or suggest a system in which a plurality of digital power management devices are operable to communicate with each other over the control and communication bus to receive information from each other to coordinate their functions, where **each** of the plurality of digital power management devices is configured to receive information transmitted onto the bus by other digital power management devices of the plurality of digital power management devices, and each of the plurality of power management devices is configured to perform one or more of its functions based on the information transmitted onto the bus by the other digital power management devices. Thus the plurality (two or more) of digital power management devices operate per above, which is not taught or suggested in the cited references (it being noted that there may be other digital power management devices (not included in the plurality) that may not operate as above).

Applicant further submits that the cited references taken together or separately do not teach or suggest a system in which a plurality of digital power management devices are configured to communicate with each other over the control and communication bus to receive information from each other to coordinate their functions, where in receiving information from each other to coordinate their functions, the plurality of digital power

management devices are configured to receive information transmitted onto the bus by **any** of the plurality of digital power management devices, and **each** of the plurality of power management devices is configured to perform one or more of its functions based on information received from **any** of the plurality of power management devices.

Applicant also submits that the cited references taken together or separately do not teach or suggest a system in which a plurality of digital power management devices are operable to communicate with each other over a control and communication bus to receive information from each other, with the plurality of digital power management devices configured to receive status information transmitted onto the bus by **other** digital power management devices of the plurality of digital power management devices, and with each of the plurality of power management devices configured to perform one or more of its functions based on the status information received from the other digital power management devices, where the status information comprises status of respective functions of the other digital power management devices.

In response to Applicant's previously submitted arguments, the Office Action states that newly cited section of Chapuis1 teaches POL regulators communicate with each other to synchronize information over the control and communication bus, and cites Col. 6, lines 36-53 of Chapuis1 in support of this characterization. Applicant respectfully submits that "synchronizing information" as taught in Chapuis1 is distinct and different from "*each of the plurality of power management devices is configured to perform one or more of its functions based on the information transmitted onto the bus by the other digital power management devices*", recited in claim 1. Col. 6, lines 36-53 of Chapuis simply teach how communication in general over a single-wire serial bus may be achieved synchronously, and does not offer any teaching or suggestion of each POL regulator being configured to receive information from other POL regulators to perform one or more of its functions based on the information transmitted onto the bus by the other POL regulators.

Applicant submits that synchronization of devices using a common clock signal is distinct from the concept of coordinating one or more power management functions by performing one or more of the one or more power management functions according to the control and monitoring information transmitted onto the bidirectional serial data bus by the other ones of the plurality of POL regulators. As mentioned above, column 6, lines 36-52 of Chapuis1 simply disclose a method of communicating over a single-wire serial bus by propagating a clock signal over the serial bus to synchronize the various communicating devices, i.e. the POL regulators and the controller, so that those devices can all successfully use the serial data bus. The specification of Chapuis1 therefore merely discloses that the devices might communicate (with the central controller) over a serial bus but offers no specific or general teaching or support for the concept according to which the POL regulators explicitly receive control and monitoring information over the bidirectional serial data bus from each other to coordinate the one or more power management functions. Synchronization of devices attached to a serial bus does not in itself imply or suggest the manner in which the devices may transmit and receive information from each other. The presence of the controller in the system disclosed by Chapuis1, taken together with the only method of transmitting information taught in figure 5, is indicative of Chapuis1 actually teaching away from a system configuration in which the POL regulators are enabled and configured to perform one or more of the one or more power management functions according to the control and monitoring information transmitted onto the bidirectional serial data bus by the other ones of the plurality of POL regulators, since such coordination is performed by the controller disclosed in the system of Chapuis1. Chapuis1 is very clear on the specific role of the controller in managing the system from a central location, whether the controller is configured outside or inside a POL regulator, while each POL regulator is merely operable to control its own functions (see column 5, lines 47-58).

Even if one were to consider "synchronization" as taught in Chapuis1 to correspond to "communication between POL regulators" as recited in claim 1 (which it does not, as Applicant has argued above), claim 1 recites that each of the plurality of digital power management devices is configured to receive information transmitted onto

the bus by other digital power management devices of the plurality of digital power management devices, and each of the plurality of power management devices is configured to perform one or more of its functions based on the information transmitted onto the bus by the other digital power management devices. The Office Action makes the argument that as taught by Chapuis1, one particular POL regulator generating clock signal 400 to synchronize other POL regulators to update data is communication between POL regulators, and that the POL regulators "receiving clock signal" corresponds to the power management devices receiving information from each other. However, Col. 5, lines 39-41 of Chapuis1 clearly state: "*The clock signal 400 can be generated by the controller, a particular POL regulator (e.g., the POL regulator with the least significant address), or an external device*". It is evident that since only a single clock signal is generated by a single device, it cannot be interpreted as the "the information transmitted onto the bus by the other digital power management devices" recited in claim 1, which also recites that "*each of the plurality of digital power management devices is configured to receive information transmitted onto the bus by other digital power management devices*" [emphasis added].

In addition, the Office Action admits that Chapuis1 does not explicitly disclose each of the plurality of power management devices is configured to perform one or more of its functions based on the information transmitted onto the bus by the other digital power management device. As Applicant has previously submitted, Chapuis1 is very clear on the specific role of the controller in managing the system from a central location, whether the controller is configured outside or inside a POL regulator, while each POL regulator is merely operable to control its own functions (see column 5, lines 47-58) independently of other POL regulators. The Office Action argues that in Col. 7, lines 41-45 Chapuis2 teaches "*each of the plurality of power management devices is configured to perform one or more of its functions ("perform functions") based on the information transmitted onto a bus by the other digital power management device* [sic]". Applicant respectfully submits that this characterization is incorrect.

The referenced passage in fact teaches that a "*fourth operational mode includes both central control using the system controller and local control over certain*

functionality", in which "*the POL regulators operate as an array coordinated by a system controller and also interoperate with each other to perform functions such as current sharing*". It is clear that the interoperation in question refers specifically to current sharing, which is well understood by those skilled in the art. Current sharing is achieved not over the control and communication bus but over a dedicated current share interface which does not couple all the POL devices together, merely pairs of POL devices, and which is used in addition to the control and communication (synch/data) bus that does couple all the POL devices together (see FIG. 3). It is clear from at least these teachings that the intra-device interfaces (CS1 and CS2) are therefore also clearly distinct from both the OK/fault bus and the synch/data bus, and that the current-share interfaces are not meant to be interpreted as comprising a control and communication bus. This is underlined by the fact that Chapuis2 clearly identifies the OK/fault bus and the synch/data bus as control and communication buses, and clearly identifies the current share interface as being specifically configured to allow POL regulators to operate in parallel to produce a single output voltage (see column 4, lines 45-57).

In other words, the specification of Chapuis2 discloses distinct multiple buses coupling selected ones of the POL regulators to each other (in contrast to claim 1, which discloses a single control and communication bus that couples all the digital power management devices), each bus in Chapuis2 serving a different function. In Figure 3 of Chapuis2, an intra-device interface is provided between individual ones of the POL regulators to enable current share, e.g., current share interface (CS1) provided between POL0 106 and POL1 108, and CS2 provided between POL4 112 and POLn 114 (see column 4, lines 45-49). Chapuis2 also discloses a controller (102) distinct from the POL regulators, which communicates with the POL regulators by writing and/or reading digital data via a serial bus, illustrated in FIG. 3 as the synch/data bus (see column 5, lines 1-5). In addition, Chapuis2 states that one of the functions of the system controller is fault management (which is also one example of "coordinating functions" as disclosed in the Present Application), which is achieved through the system controller's communicating with the POL regulators over a second bus (OK/fault bus in figure 3) that is distinct from the synch/data bus (see column 5, lines 11-15). Thus Applicant maintains that this operation of Chapuis2 is not relevant to the present claims.

In contrast, claim 1 recites a plurality of digital power management devices that are operable to communicate with each other over the control and communication bus to receive information from each other that were transmitted onto the control and communication bus by the digital power management devices. It is clear from Chapuis2 that the current share interface is distinct and different from the control and communication bus, and cannot be construed as a control and communications bus because of the specific role of the current share bus to enable current sharing functionality. Consequently, as also argued above with regard to Col. 6, lines 36-53 of Chapuis1 cited by the Office Action, combining Chapuis1 and Chapuis2 does not result in the combination of features recited in claim 1.

Applicant again submits in addition, that information received by the POL regulators from sources other than the controller is disclosed by Chapuis1 as comprising fault monitoring data, which, as Chapuis1 also clearly indicates, originates from an external device or sense circuit corresponding to the given POL regulator (see figure 3-2, which discloses an example of the configuration of sense circuit 330), with the fault monitoring data containing information on the given POL regulator or its output (see column 5, lines 13-17). It is thus clear from the specification of Chapuis1, including the figures, that Chapuis1 teaches a central controller performing the monitoring of the POL regulators, and any coordination of the functions of the POL regulators (see also column 8, lines 18-33).

The same arguments apply to claims 41 and 42.

For at least these reasons, Applicant submits that the combinations of features recited in claims 1, 41, and 42 are not taught or suggested by Chapuis1 and/or Chapuis2, taken separately or together. Furthermore, combining Chapuis1 and Chapuis2 would not result in the combination of features recited in claims 1, 41 and 42. Applicant also submits that since independent claims 1 has been shown to be patentably distinct, respective dependent claims 2-40 are also patentably distinct for at least the same

reasons. Accordingly, Applicant respectfully requests removal of the 35 U.S.C. § 103(a) rejection of claims 1-42.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above-referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Meyertons, Hood, Kivlin, Kowert & Goetzel P.C., Deposit Account No. 50-1505/5900-00101/JCH.

Also filed herewith are the following items:

☐ Request for Continued Examination

☐ Terminal Disclaimer

☐ Power of Attorney By Assignee and Revocation of Previous Powers

☐ Notice of Change of Address

☐ Other:

Respectfully submitted,

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